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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/788,621	02/21/2001	Hikaru Kouta	Q63282	4578

7590 11/03/2006

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EXAMINER	
KAO, CHIH CHENG G	

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 11/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/788,621	KOUTA ET AL.	
	Examiner	Art Unit	
	Chih-Cheng Glen Kao	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lembo (US 5583516) in view of Kondo et al. (Optics Letters) and Bilodeau et al. (US 5495548).

Lembo discloses a method comprising the steps of irradiating to at least one of a core section and a clad section, wherein rays are irradiated along the core section at least one time to the core section of an optical wave-guide to modify a refractive index thereof, wherein the rays are irradiated to the core section for necessarily heating the core section (col. 4, lines 15-25), and wherein an optical wave-guide device (fig. 7) includes an array wave guide grating (fig. 7, #330) for dividing multiplexed rays (fig. 7, at the splitter) used for WDM optical telecommunication and binding the divided rays (fig. 7, at the recombination), and the refractive index is modified such that a ray having a specified wavelength (fig. 7, λ_1) is coupled to the optical wave-guide.

However, Lembo fails to disclose condensing ultra short pulse laser rays having a pulse width not more than 30 pico-seconds using an objective lens to at least one of the core and clad section, saturating a change of a refractive index of a core section, wherein the ultra short pulse laser rays are irradiated, while scanned along the core section, wherein the laser rays are irradiated to the core section for heating the core section as well as modifying the refractive

index of the core section so that a color center which is unstable in heat, is removed by heat generated by the irradiation of the laser rays based on a structural change of the core section, thereby making thermal treatment unnecessary.

Kondo et al. teaches condensing ultra short pulse laser rays having a pulse width not more than 30 pico-seconds (page 646, col. 2, line 4) using an objective lens (fig. 1, lens next to "20X") to at least one of the core and clad section (page 646, col. 2, lines 1-5 and fig. 1), wherein the laser rays are irradiated, while scanned along the core section (fig. 1, "XYZ-stage"), and wherein the laser rays are irradiated to the core section for heating the core section as well as modifying the refractive index to the core section so that a color center which is unstable in heat, is necessarily removed by heat generated by the irradiation of the laser rays based on a structural change of the core section, thereby making thermal treatment unnecessary (page 648, col. 1, lines 3-25). Bilodeau et al. teaches saturating the change of the refractive index (fig. 2).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the method of Lembo with the ultra short pulse laser rays of Kondo et al., since one would have been motivated to make such a modification for better thermal stability (abstract) as shown by Kondo et al.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the method of Lembo with the saturating of Bilodeau et al., since where the general conditions of a claim are disclosed in the prior art, discovering the working ranges or optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to make such a modification for better ensuring that the desired fiber characteristics are reached (fig. 2) as implied from Bilodeau et al.

2. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greene (US 5938811) in view of Kondo et al. and Bilodeau et al.

Greene discloses a method comprising the steps of irradiating to at least one of a core section and a clad section, wherein rays are irradiated along the core section at least one time to the core section of an optical wave-guide to modify a refractive index thereof, wherein the rays are irradiated to the core section for necessarily heating the core section (col. 1, lines 44-51), and wherein an optical wave-guide device includes a fiber grating (fig. 6, #63) for diffracting a ray having a specified wavelength and the refractive index of the grating is modified by the specified wavelength (col. 6, lines 11-14).

However, Greene fails to disclose condensing ultra short pulse laser rays having a pulse width not more than 30 pico-seconds using an objective lens, saturating a change of a refractive index of a core section, wherein the ultra short pulse laser rays are irradiated, while scanned along the core section, wherein the laser rays are irradiated to the core section for heating the core section as well as modifying the refractive index of the core section so that a color center which is unstable in heat, is removed by heat generated by the irradiation of the laser rays based on a structural change of the core section, thereby making thermal treatment unnecessary.

Kondo et al. teaches condensing ultra short pulse laser rays having a pulse width not more than 30 pico-seconds (page 646, col. 2, line 4) using an objective lens (fig. 1, lens next to "20X"), wherein the laser rays are irradiated, while scanned along the core section (fig. 1, "XYZ-stage"), and wherein the laser rays are irradiated to the core section for heating the core section as well as modifying the refractive index of the core section so that a color center which is

unstable in heat, is necessarily removed by heat generated by the irradiation of the laser rays based on a structural change of the core section, thereby making thermal treatment unnecessary (page 648, col. 1, lines 3-25). Bilodeau et al. teaches saturating the change of the refractive index (fig. 2).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the method of Greene with the ultra short pulse laser rays of Kondo et al., since one would have been motivated to make such a modification for better thermal stability (abstract) as shown by Kondo et al.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to include the method of Greene with the saturating of Bilodeau et al., since where the general conditions of a claim are disclosed in the prior art, discovering the working ranges or optimum value of a result effective variable involves only routine skill in the art. One would have been motivated to make such a modification for better ensuring that the desired fiber characteristics are reached (fig. 2) as implied from Bilodeau et al.

Response to Arguments

3. Applicant's arguments, see page 2 in Applicant's Response, filed August 30, 2006, with respect to the rejection(s) of claim(s) 17 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of at least Lembo as recited above.

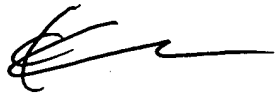
Applicant's arguments with respect to claims 17 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Chih-Cheng Glen Kao
Examiner
Art Unit 2882